

lightly tinted transparent state. Using different dyes can yield different colors. The following is a list of the dyed mixtures for the colored PSCT device.--

In the claims:

Please cancel claims 68-82, and 90-92 without prejudice or disclaimer.

Presented below are the claims pending after entry of the present amendment:

41. (Amended) An electro-optical glazing structure comprising:  
an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and  
an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,  
wherein the liquid crystal material comprises a PSCT liquid crystal material including a chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:  
$$[\text{Si}(\text{CH}_3)\text{O}]_n$$
42. The electro-optical glazing structure of claim 41, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.
43. The electro-optical glazing structure of claim 42, in which the modes of operation avoid the use of energy absorbing mechanisms.
44. The electro-optical glazing structure of claim 42 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.
45. The electro-optical glazing structure of claim 41, wherein the optically transparent substrates comprise float-glass.

46. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,  
wherein the liquid crystal material comprises a chiral liquid crystal and ethylene glycol dimethacrylate.

47. The electro-optical glazing structure of claim 46, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

48. The electro-optical glazing structure of claim 47, in which the modes of operation avoid the use of energy absorbing mechanisms.

49. The electro-optical glazing structure of claim 47 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

50. The electro-optical glazing structure of claim 46, wherein the optically transparent substrates comprise float-glass.

51. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a chiral liquid crystal and a monomer selected from the group consisting of ethylene glycol dimethacrylate, urethane acrylates having a viscosity of about 300 to about 400 centipoise, and epoxies having a viscosity of about 1400 to about 1800 centipoise, and combinations comprising at least one of the foregoing monomers.

52. The electro-optical glazing structure of claim 52, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

53. The electro-optical glazing structure of claim 52, in which the modes of operation avoid the use of energy absorbing mechanisms.

54. The electro-optical glazing structure of claim 52 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

55. The electro-optical glazing structure of claim 51, wherein the optically transparent substrates comprise float-glass.

56. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a PSCT liquid crystal material including a chiral liquid crystal, a monomer and a dichroic dye.

57. The electro-optical glazing structure of claim 56, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

58. The electro-optical glazing structure of claim 57, in which the modes of operation avoid the use of energy absorbing mechanisms.

59. The electro-optical glazing structure of claim 57 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

60. The electro-optical glazing structure of claim 56, wherein the optically transparent substrates comprise float-glass.

61. (Amended) The electro-optical glazing structure of claim 56, wherein said dichroic dye is an anthraquinone dye.

62. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises a chiral liquid crystal, a monomer and a surfactant.

63. The electro-optical glazing structure of claim 62, which has total-scattering and total-transmission modes of operation for improved control over the flow of electromagnetic radiation within the solar region of the electromagnetic spectrum.

64. The electro-optical glazing structure of claim 63, in which the modes of operation avoid the use of energy absorbing mechanisms.

65. The electro-optical glazing structure of claim 63 which has a broad band of operation, including the near-IR, visible and near-UV portions of the electromagnetic spectrum.

66. The electro-optical glazing structure of claim 62, wherein the optically transparent substrates comprise float-glass.

67. The electro-optical glazing structure of claim 62, wherein said surfactant comprises Poly (Dimethylsiloxane).

83. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a PSCT liquid crystal material including a chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:



84. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a chiral liquid crystal and ethylene glycol dimethacrylate.

85. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a chiral liquid crystal and a monomer selected from the group consisting of ethylene Glycol glycol Dimethacrylate dimethacrylate(EGD), urethane acrylates having a viscosity of about 300 to about 400 centipoise, and epoxies having a viscosity of about 1400 to about 1800 centipoise, and combinations comprising at least one of the foregoing monomers.

86. A liquid crystal material for an electro-optical glazing structure comprising a PSCT liquid crystal material and a dichroic dye.

87. (Amended) The liquid crystal material of claim 86, wherein said dichroic dye is an anthraquinone dye.

88. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a chiral liquid crystal, a monomer, and a surfactant.

89. The liquid crystal material of claim 88, wherein said surfactant comprises Poly (Dimethylsiloxane).

Marked Version Showing Changes

41. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation,

wherein the liquid crystal material comprises a PSCT liquid crystal material including a chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:



46. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises a chiral liquid crystal and Ethylene-ethylene Glycol glycol Dimethacrylate dimethacrylate(EGD) commercially available from Aldrich.

51. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises a chiral liquid crystal and a monomer selected from the group consisting of Ethylene-ethylene Glycol-glycol Dimethacrylate dimethacrylate(EGD), urethane acrylates having a viscosity of about 300 to about 400 centipoise, and epoxies having a viscosity of about 1400 to about 1800 centipoise, UV10, UV15-7 and combinations comprising at least one of the foregoing monomers commercially available from Aldrich and Master Bond.

56. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises a PSCT liquid crystal material including a chiral liquid crystal, a monomer and a dichroic dye.

61. (Amended) The electro-optical glazing structure of claim 56, wherein said dichroic dye is an anthraquinone dye selected from the group consisting of D5, D35, D52 and combinations comprising at least one of the foregoing dyes commercially available from EMI.

62. (Amended) An electro-optical glazing structure comprising:

an electro-optical glazing panel including liquid crystal material interposed between a pair of optically-transparent substrates, said electro-optical glazing panel having an electrically-switchable scattering mode of operation and electrically-switchable transmission mode of operation; and

an optical state switching mechanism for electrically-switching said electro-optical glazing panel into said electrically-switchable scattering mode of operation and into said electrically-switchable transmission mode of operation, wherein the liquid crystal material comprises a chiral liquid crystal, a monomer and a surfactant.

83. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a PSCT liquid crystal material including a chiral liquid crystal and a monomer, the monomer lacking the mesogenic group of the general formula:



84. (Amended) A liquid crystal material for an electro-optical glazing structure comprising a chiral liquid crystal and Ethylene-ethylene Glycol-glycol Dimethacrylate-dimethacrylate (EGD) ~~commercially available from Aldrich.~~